

CLAIMS

The invention claimed is:

- 5 1. A method of selectively manipulating an object by a web browser, said method comprising the steps of:
 - (a) detecting an input at a web browser; and
 - (b) producing an effect on said object in response to detection of a location attribute related to said input.
- 10 2. The method of claim 1 wherein said step of producing said effect on said object in response to detection of said location attribute related to said input comprises the step of loading a web page on a web browser specified by said location attribute.
- 15 3. The method of claim 2 wherein the step of loading said web page on a web browser specified by said location attribute comprises the step of loading said web page on at least one of a web browser on which said input was detected and another web browser.
- 20 4. The method of claim 3 wherein said web browser at which said input was detected and said another web browser are engaged in a synchronized display session.
- 25 5. The method of claim 1 wherein said step of producing said effect on said object in response to detection of said location attribute related to said input comprises the step of dynamically altering said object displayed by a web browser specified by said location attribute.

6. The method of claim 5 wherein the step of dynamically altering said object displayed by a web browser specified by said location attribute comprises the step of dynamically altering said object displayed on at least one of a web browser on which said input was detected and another web browser.

5

7. The method of claim 5 wherein said web browser at on which said input was detected and said another web browser are engaged in a synchronized display session.

- 10 8. The method of claim 1 wherein said step of producing said effect on said object in response to detection of said location attribute related to said input comprises the step of loading a web page in a frame specified by said location attribute.

- 15 9. The method of claim 8 wherein the step of loading said web page in a frame specified by said location attribute comprises the step of loading said web page in a frame displayed by at least one of a web browser on which said input was detected and another web browser.

- 20 10. The method of claim 8 wherein said web browser at which said input was detected and said another web browser are engaged in a synchronized display session.

- 25 11. The method of claim 1 wherein said step of producing said effect on said object in response to detection of said location attribute related to said input comprises the step producing said effect on at least one web browser of a plurality of synchronized web browsers in response to said input, said at least one web browser identified by said location attribute.

12. The method of claim 1 wherein said step of producing said effect on said object in response to detection of said location attribute related to said input comprises the step producing said effect in a frame of a web browser display specified by said location attribute.

5

13. The method of claim 1 wherein said step of producing said effect on said object in response to detection of said location attribute related to said input comprises the step producing said effect in response to an input at a web browser specified by said location attribute.

10

14. The method of claim 1 further comprising the step of generating an event in response to said input, said event including at least one attribute specifying at least one web browser as at least one of a source of an input initiating said event and a site of an effect produced by said event.

15

15. The method of claim 14 further comprising the steps of:

(a) registering an association of said event and an object related to said input; and

(b) in response to said input, confirming said association of said object and said event.

20

16. The method of claim 14 further comprising the steps of:

(a) sending a synchronization command from a first web browser to a second web browser in response to detection of said location attribute specifying said second web browser as said location for said effect; and

25

(b) producing said effect at said second browser in response to said synchronization command.

17. The method of claim 16 wherein said step of producing said effect on said object in response to said synchronization command comprises the step of loading a web page on a remote web browser.
- 5 18. The method of claim 17 further comprising the step of loading said web page on a local web browser at which said input was detected.
19. The method of claim 18 wherein said remote web browser and said local web browser are engaged in a synchronized display session.
- 10 20. The method of claim 16 wherein said step of producing said effect on said object in response to said synchronization command comprises the step of dynamically altering said object as displayed by a remote web browser.
- 15 21. The method of claim 20 further comprising the step of dynamically altering said object as displayed on a local web browser at which said input was detected.
- 20 22. The method of claim 21 wherein said remote web browser and said local web browser are engaged in a synchronized display session.
23. The method of claim 16 wherein said step of producing said effect on said object in response to said synchronization command comprises the step of loading a web page in a frame specified by said location attribute.
- 25 24. The method of claim 23 wherein the step of loading said web page in a frame specified by said location attribute further comprises the step of loading said web page in a frame displayed by said first web browser.

25. The method of claim 24 wherein said remote web browser and said local web browser are engaged in a synchronized display session.
26. The method of claim 14 further comprising the steps of:
- 5 (a) sending a synchronization command from a first web browser to a second web browser in response to detection of said location attribute specifying said first web browser as a location for said input; and
- 10 (b) producing said effect on at least one of said first and said second web browsers.
27. The method of claim 26 wherein said step of sending said synchronization command from said first web browser to said second web browser in response to detection of said location attribute specifying said first web browser as a
- 15 location for said input comprises the steps of:
- (a) detecting said location attribute specifying a property of a source of said input;
- (b) confirming that said property of said web browser at which said input was detected conforms to said property specified
- 20 by said location attribute; and
- (c) sending said synchronization command to said second web browser in response to said confirmation.
28. The method of claim 27 further comprising the step of loading a web page at
- 25 second web browser in response to said synchronization command.
29. The method of claim 28 further comprising the step of loading a web page at said first web browser in response to said location attribute.

30. The method of claim 27 further comprising the step of loading a web page in a frame displayed by said second web browser in response to said synchronization command.
- 5 31. The method of claim 29 further comprising the step of loading a web page in a frame displayed by said first web browser in response to said location attribute.
- 10 32. The method of claim 27 further comprising dynamically altering an object displayed by said second web browser in response to said synchronization command.
- 15 33. The method of claim 32 further comprising the step of dynamically altering an object displayed by said first web browser in response to said location attribute.
- 20 34. A method of selectively manipulating an object on at least one web browser of a plurality of synchronized web browsers, said method comprising the steps of:
- 25 (a) detecting an input at a local web browser;
- (b) generating an event in response to said input;
- (c) detecting at least one attribute of said event specifying at least one of a location of an action manipulating said object and a location of said action; and
- (d) executing said action to manipulate said object at a location specified by a location attribute of said event.

35. The method of claim 34 wherein said location specified by said location attribute comprises at least one of said local web browser and a second remote web browser.
- 5 36. The method of claim 34 wherein said location specified by said location attribute further comprises a frame displayed by at least one of said local and said remote web browsers.
- 10 37. The method of claim 34 wherein the step of generating an event in response to said input comprises the steps of:
- (a) registering an association of said event and an input object;
 - (b) detecting said input at a display location corresponding to said input object; and
 - 15 (c) confirming said association in response to said input; and
 - (d) generating said event in response to said confirmation.
38. The method of claim 34 further comprising the steps of:
- 20 (a) detecting a location attribute associated with said event, said location attribute specifying a source for said user input; and
 - (b) confirming that said source of said user input is a browser including a property equivalent to said source specified by said location attribute.
- 25 39. The method of claim 34 wherein the step executing said action to manipulate said object at said location specified by said location attribute comprises the step of:
- (a) sending a synchronization command from a local web

browser to a remote web browser in response to
detection of a location attribute specifying said remote
web browser as said location for said action; and

5 (b) executing said action to manipulate said object at said
remote web browser in response to said synchronization
command.

40. The method of claim 39 further comprising the step of manipulating said
object in a frame displayed by said remote web browser in response to
10 detection of a location attribute of said event specifying a frame displayed by
said remote browser.

41. The method of claim 40 wherein said action comprises loading a web page.

15 42. A method of selectively manipulating an object displayed on at least one of a
local web browser and remote web browser during a synchronized display
session, said method comprising the steps of:

- 20 (a) registering an association of an input object and an event
having at least one location attribute;
- (b) detecting an input at said local web browser related to
said input object;
- (c) in response to said input, confirming said association of
said event and said input object;
- 25 (d) generating said event in response to said input;
- (e) sending a synchronization command to said remote web
browser in response to detection of a location attribute
specifying said remote browser as a location of an action
manipulating a displayed object;
- (f) executing said action at said remote web browser in

response to said synchronization command; and
(g) executing said action manipulating said displayed object
at said local browser in response to detection of a
location attribute specifying said local browser as a
location of said action.

5

43. The method of claim 42 wherein step of executing said action at said remote
web browser in response to said synchronization command comprises the
step of loading a web page for display by said remote web browser.

10

44. The method of claim 42 wherein the step of executing said action at said
remote web browser in response to said synchronization command comprises
the step of loading a web page display in a frame by said remote web
browser, said frame specified by said location attribute.

15

45. The method of claim 42 wherein the step of executing said action at said
remote web browser in response to said synchronization command comprises
the step of dynamically altering an object displayed by said remote web
browser.

20

46. The method of claim 42 further comprising the steps of:

- (a) detecting an attribute of said event specifying a
permissible source of user input to initiate said event;
- (b) comparing a property identifying said local web browser
to said permissible source attribute of said event; and
- (c) generating said event in response to conformance of said
property and said permissible source attribute of said
event.

25

47. A web browser comprising:

- (a) an interface to display an input object and detect an input related to said input object;
- 5 (b) an event manager to register an association of said input object and an event including at least one location attribute and to determine a location of an occurrence of said event from said location attribute;
- 10 (c) a layout engine to generate said event in response to said detection of said input and confirmation of said association of said event and said input object; and
- (d) a synchronization manager directing notification of a remote web browser of said event in response to detection of a location attribute specifying said remote browser as said location of said occurrence.

15

48. The apparatus of claim 47 further comprising a communication manager to transmit said notification to said remote web browser in response to said direction of said synchronization manager and to receive communication from said remote web browser including a notification of a receiving apparatus as a
20 location of an occurrence of an event.

20

49. The apparatus of claim 48 further comprising a script engine to alter a displayed object in response to an event.